

Appln No. 09/991,199

Amdt date February 27, 2004

Reply to Office action of December 1, 2003

Amendments to the Specification:

Page 10, line 16 through Page 11, line 8, please amend as follows:

The scan test apparatus of the present invention is illustrated in FIGs. 4-17. FIG. 4 illustrates a scan test apparatus 100 for double-sided scanning of a printed circuit board 102. Apparatus 100 includes upper housing 104 and lower housing 106 between which the printed circuit board is passed. Upper housing 104 includes a forward electrical contactor 108 and a rear electrical contactor 110 positioned on either side of a shorting matrix 112. Similarly, lower housing 106 includes forward electrical contactor 114 and rear electrical contactor 116 positioned on either side of a shorting matrix 118. The electrical contactors in both the upper and lower housing, although shown positioned adjacent both the leading and trailing edges of the shorting matrix, it is to be understood that the scan test apparatus can properly operate by placement of the electrical contactors adjacent only one of the leading or the trailing edge of the shorting matrix. Upper housing 104 includes forward and rear drive rollers 120 and 122, which cooperate with forward and rear drive rollers 124, 126 attached to lower housing 106. In this embodiment, lower housing would be rigidly connected to a base and upper housing would be biased toward the lower housing by actuators 128. The actuators could be a linear motor, a pneumatic or hydraulic cylinder, or a spring. The printed circuit board is scanned by the drive rollers, which are geared and driven by a motor, drawing the printed circuit board through the forward electrical actuators, the shorting matrix and the rear electrical contactors and ultimately out of the scan test apparatus through the rear drive rollers. In this embodiment, the electrical contactors can be wiper brushes or test probes, such as accordion probes, beam

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probes, or flex circuit fingers. The shorting matrix can be a conductive and compliant layer as shown in FIG. 1 or can be a metal plate.